APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
09/431,760	11/01/99	WEISSMAN	A	0003.P001

TM02/1015

CALENDAR/DOCKET DEPARTMENT
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EXAMINER
WASSUM I

ART UNIT	PAPER NUMBER
2177	

DATE MAILED:

10/15/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

	Application No.	**Applicant(s)**
Office Action Summary	09/431,760	WEISSMAN ET AL.
	Examiner	**Art Unit**	
	Luke S. Wassum	2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _01 November 1999_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-24_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _01 November 1999_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a)☐ All b)☐ Some * c)☐ None of:

　　1.☐ Certified copies of the priority documents have been received.

　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

DETAILED ACTION

Priority

1.   Applicant's claim for domestic priority under 35 U.S.C. 119(e) based on provisional

application 60/155,667 filed 22 September 1999 is acknowledged. ***Oath/Declaration***

2.   The oath or declaration is defective. A new oath or declaration in compliance with 37

CFR 1.67(a) identifying this application by application number and filing date is required. See

MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See
37 CFR 1.52(c).

Drawings

3.   A proposed drawing correction or corrected drawings, addressing those deficiencies noted

on the cited PTO-948, is required in response to this Office action to avoid abandonment of the

application. The objection to the drawings will not be held in abeyance.

Specification

4.   Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should

include that which is new in the art to which the invention pertains. If the patent is of a basic

nature, the entire technical disclosure may be new in the art, and the abstract should be directed to

the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process,

product, or composition, the abstract should include the technical disclosure of the improvement.

In certain patents, particularly those for compounds and compositions, wherein the process for

making and/or the use thereof are not obvious, the abstract should set forth a process for making

and/or use thereof. If the new technical disclosure involves modifications or alternatives, the

abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the

invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

    (1) if a machine or apparatus, its organization and operation;
    (2) if an article, its method of making;
    (3) if a chemical compound, its identity and use;
    (4) if a mixture, its ingredients;
    (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

5.   The abstract of the disclosure is objected to because it fails to point out in any detail the

technical features that render it new in the art. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant regards as the

invention.

Claim 4 is a dependant claim, depending upon itself.

Correction is required.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9.   Claims 1-4, 6 and 8-19 are rejected under 35 U.S.C. 102(b) as being anticipated by **Fellbaum**

("WordNet: An Electronic Lexical Database").

10.   Regarding claim 1, **Fellbaum** teaches a method comprising:

a) organizing concepts according to their meaning into a lexicon, said lexicon defining

elements of a semantic space (see Constructing the Lexical Database, pages 3-4; see

also Chapter 4, beginning on page 105; see also Chapter 8, beginning on page 199);

and

b) providing a meaning differentiator in response to an input query, said meaning

differentiator presenting a set of concepts from said lexicon that are related to said

query (see Section 12.4 Query Expansion, pages 295-301).

11.   Regarding claim 2, **Fellbaum** additionally teaches a method including:

a) determining a semantic distance from a first concept to a second concept, representing the

closeness in meaning between said concepts (see page 241, last paragraph, and page

242, first paragraph; see also Section 14.3.2.3 Word Distance, pages 341-342); and

b) determining the relationship between said concepts (see pages 29-43; see also Chapter 2,

beginning on page 47, and Chapter 3, beginning on page 70).

12.   Regarding claims 3 and 4, **Fellbaum** additionally teaches a method comprising presenting

results of a search conducted on a target data set in accordance with said set of concepts by ranking

elements of said target data set according to conceptual relevance (see Section 4.5 Retrieving Lexical

Information, pages 117-119; see also Section 4.6 X Windows Interface, pages 120-123; see also

Section 12.3 Concept Matching, pages 288-294).

13.   Regarding claim 5, **Fellbaum** additionally teaches a method comprising refining said search

results by filtering for desired concepts from said set of concepts, said refined search results

excluding elements of said target data set pertaining to undesired concepts (see Figures 4.3 and 4.4

on pages 121 and 123; see also discussion of the capability to limit a search by senses in Section 4.6.1

Searching the Database, beginning on page 120).

14.   Regarding claims 6 and 16, **Fellbaum** additionally teaches a method wherein organizing

includes attaching meanings to elements in a predefined data set which is the target set (see Section

1.8 Similar Meanings of Polysemous Nouns, pages 41-43).

15.   Regarding claim 8, **Fellbaum** additionally teaches a method further comprising:

a) attaching meanings to elements in a predefined data set (see Section 1.8 Similar Meanings

of Polysemous Nouns, pages 41-43); and

b) calculating scores for said elements according to the semantic distance between meanings

attached to said elements and other meanings (see page 241, last paragraph, and page

242, first paragraph; see also Section 14.3.2.3 Word Distance, pages 341-342).

16.   Regarding claim 9, **Fellbaum** additionally teaches a method wherein said meaning

differentiator includes a set of meanings that could be interpreted of said query or portion thereof

(see Section 12.4 Query Expansion, pages 295-301).

17.   Regarding claim 10, **Fellbaum** additionally teaches a method wherein providing a meaning

differentiator includes interpreting at least a portion of said query into specific meanings (see Section

12.4 Query Expansion, pages 295-301, and particularly page 300, first paragraph).

18.   Regarding claim 11, **Fellbaum** additionally teaches a method enabling a user to select at least

one meaning from said set of meanings (see Section 12.4 Query Expansion, pages 295-301, and

particularly Section 12.4.1 Expanding by Manually Selected Synsets).

19.   Regarding claim 12, **Fellbaum** additionally teaches a method wherein said elements are

related by a connection, said connections including a lateral bind (see discussion of horizontal links

in Section 13.3.1 Relations between Words, beginning on page 307), a kind of (see page 35, second

paragraph) and a part of (see Section 1.5 Parts and Meronymy, beginning on page 37).

20.   Regarding claim 13, **Fellbaum** additionally teaches a method wherein said connection has an

associated strength representing the degree to which said elements are related (see discussion of

extra-strong, strong and medium-strong links, beginning on page 307, last paragraph).

21.   Regarding claim 14, **Fellbaum** additionally teaches a method wherein said meanings may be

marked as at least one of a geographical location, offensive, unique instance, timely and a proper

noun (see discussion of proper nouns and locations, page 207, second paragraph).

22.   Regarding claim 15, **Fellbaum** additionally teaches a method wherein said strength from a

first element to a second element may be different from the strength from said second element to

said first element (see Rule R1 on page 309, and Figure 13.2, describing how, for instance, a

medium-strong relation exists between elements connected by a downward and then horizontal link,

but the reciprocal link via a horizontal and then an upward link is not allowed.)

23.   Regarding claim 17, **Fellbaum** additionally teaches a method wherein said elements are

subject nodes and said predefined data set is a hierarchy of subjects (see Section 1.1 Lexical

Hierarchy, beginning on page 25).

24.   Regarding claims 18 and 19, **Fellbaum** teaches a method comprising:

         a) organizing concepts according to their meaning into a lexicon, said lexicon defining

                elements of a semantic space (see Constructing the Lexical Database, pages 3-4; see

                also Chapter 4, beginning on page 105; see also Chapter 8, beginning on page 199);

b) providing a meaning differentiator in response to an input query, said meaning

differentiator presenting a set of concepts from said lexicon that are related to said

query (see Section 12.4 Query Expansion, pages 295-301);

c) determining a semantic distance from a first concept to a second concept, representing the

closeness in meaning between said concepts (see page 241, last paragraph, and page

242, first paragraph; see also Section 14.3.2.3 Word Distance, pages 341-342);

d) determining the relationship between said concepts (see pages 29-43; see also Chapter 2,

beginning on page 47, and Chapter 3, beginning on page 70); and

e) presenting results of a search conducted on a target data set in accordance with said set of

concepts by ranking elements of said target data set according to conceptual relevance

(see Section 4.5 Retrieving Lexical Information, pages 117-119; see also Section 4.6 X

Windows Interface, pages 120-123; see also Section 12.3 Concept Matching, pages

288-294).

25.   Claims 20, 21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by **Deerwester**

et al. (U.S. Patent 4,839,853).

26.   Regarding claim 20, **Deerwester et al.** teaches a method of searching a network of

information sources as claimed, comprising:

a) receiving as input a search query (see col. 1, lines 39-41; see also col. 8, lines 9-28); see also

col. 8, lines 30-34); and

b) searching a semantic space for data pertaining to concepts close in meaning to said search

query (see col. 2, lines 24-40).

27.   Regarding claim 21, **Deerwester et al.** additionally teaches a method wherein searching

includes positioning data from said information sources into a semantic space (see Figure 1; see also

col. 4, line 30 through col. 5, line 45).

28.   Regarding claim 23, **Deerwester et al.** additionally teaches a method wherein said

information sources include documents (see col. 3, lines 34-54).

Claim Rejections - 35 USC § 103

29.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
> 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the
> subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

30.   This application currently names joint inventors. In considering patentability of the claims

under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was

commonly owned at the time any inventions covered therein were made absent any evidence to the

contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and

invention dates of each claim that was not commonly owned at the time a later invention was made

in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35

U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

31.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Fellbaum** ("WordNet:

An Electronic Lexical Database") as applied to claims 1-4, 6 and 8-19 above, and further in view of

Wical (U.S. Patent 6,038,560).

32.   Regarding claim 7, **Fellbaum** teaches a method substantially as claimed.

Fellbaum does not teach a method comprising determining which meanings are closely

related by defining a radius of semantic distance about a given meaning and excluding meanings

falling in distance beyond said radius.

Wical, however, teaches a method comprising determining which meanings are closely

related by defining a radius of semantic distance about a given meaning and excluding meanings

falling in distance beyond said radius (see col. 14, lines 1-55, and particularly lines 25-36).

It would have been obvious to one of ordinary skill in the art at the time of the invention to

incorporate a mechanism for filtering meanings whose semantic distance from a given meaning is

outside a specific radius, since a high semantic distance reflects a low degree of relation between

terms, and so would be less likely to reflect terms of interest to the querying user.

33.   Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Deerwester et al. (U.S. Patent 4,839,853) as applied to claims 20, 21 and 23 above, and further in

view of **Wical** (U.S. Patent 6,038,560).

34.   Regarding claim 22, **Deerwester et al.** teaches a method substantially as claimed.

Deerwester et al. does not teach a method comprising refining the results of said search by excluding said pertaining data that relates to undesired concepts, said undesired concepts excluded by inputting said selected meanings and searching said search results for the pertaining data that is semantically close to said selected meaning.

However, **Wical** teaches a method comprising refining the results of said search by excluding said pertaining data that relates to undesired concepts, said undesired concepts excluded by inputting said selected meanings and searching said search results for the pertaining data that is semantically close to said selected meaning (see col. 10, line 63 through col. 11, line 12).

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the user to select relevant documents without being required to read all documents returned for all categories from the original query (see col. 11, lines 1-12) in order to find the most relevant documents, thus saving the user time.

35.   Regarding claim 24, **Wical** additionally teaches a method wherein said documents include documents accessible via the world-wide web (see col. 5, lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include documents from the world-wide web in a search, since the world-wide web includes a wide

variety of documents on nearly any possible subject of interest, thus widening the scope of a search

greatly and increasing the chances of successfully identifying relevant documents.

Conclusion

36.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Wical et al. (U.S. Patent 6,101,515) teaches a system that learns terms in the context of a set

of documents.

Wical (U.S. Patent 5,953,718) teaches a search and retrieval system that generates a research

document that infers an answer to a query from multiple documents.

Wical (U.S. Patent 5,940,821) teaches a knowledge base search and retrieval system

including a factual and conceptual knowledge base queries.

Liddy et al. (U.S. Patent 5,873,056) teaches a natural language processing system using

unformatted text and generating a subject vector representation of said text, which may be an entire

document, or may be a pert thereof such as its title, a paragraph, clause or sentence therein.

Dahlgren et al. (U.S. Patent 5,794,050) teaches a system that interprets natural language

input using common sense reasoning using modules for parsing, disambiguation, formal semantics,

anaphora resolution, and coherence, and a naïve semantic lexicon.

Deerwester (U.S. Patent 5,778,362) teaches a system for analyzing a collection of data items

by treating a collection of documents as a two-dimensional matrix map.

Wical (U.S. Patent 5,694,523) teaches a content processing system for determining the

content of input discourse, including a lexicon and a knowledge catalog.

Baker et al. (U.S. Patent 5,680,511) teaches a word recognition system that operates to recognize an unrecognized or ambiguous word that occurs within a passage of words.

Sadler (U.S. Patent 5,128,865) teaches a method of determining the degree to which one or more lexical items belonging to a predefined corpus of text in any given language are semantically related to each other.

Ausborn (U.S. Patent 5,056,021) teaches a method and apparatus for abstracting meanings from natural language words.

Ferri et al. ("Toward a Retrieval of HTML Documents Using a Semantic Approach") teaches information access and retrieval using Web syntactic structures and semantic organization.

Caudal ("Using Complex Lexical Types to Model the Polysemy of Collective Nouns within the *Generative Lexicon*") teaches a formal treatment of nouns drawing on the rich lexical typing of the *Generative Lexicon*.

Meijs ("Inferring Grammar from Lexis: Machine-Readable Dictionaries asd Sources of Wholesale Syntactic and Semantic Information") teaches the creation of large-scale lexicons with a realistic level of coverage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke S. Wassum whose telephone number is 703-305-5706. The examiner can normally be reached on Monday-Friday 8:30-5:30, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 703-305-9790. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

In addition, INFORMAL or DRAFT communications may be faxed directly to the examiner at 703-746-5658.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Luke S. Wassum
Art Unit 2177

lsw
October 9, 2001

JEAN R. HOMERE
PRIMARY EXAMINER